

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A pre-purification unit of a cryogenic air separation unit, which is a thermal swing adsorption pre-purification unit comprising a column packed with a hydrocarbon adsorbent, wherein that comprises

said hydrocarbon adsorbent comprises a zeolite with that has a H-FER structure, or a Na-MOR structure or K-MOR structure in which a pore diameter has been adjusted by ion exchange, and a Si/Al ratio of no more than 20.

2. (Original) A pre-purification unit according to claim 1, wherein said tower is packed with sequential layers of activated alumina, a NaX zeolite, and said hydrocarbon adsorbent.

3. (Currently amended) A pre-purification unit of a cryogenic air separation unit, which is a thermal swing adsorption pre-purification unit comprising a column packed with a propane adsorbent, wherein that comprises

said propane adsorbent comprises a zeolite with that has a H-MFI structure, Na-MFI structure, Ca-MFI structure, Zn-MFI structure, or Cu-MFI structure, and a Si/Al ratio of no more than 20.

4. (Original) A pre-purification unit according to claim 3, wherein said tower is packed with sequential layers of activated alumina, a NaX zeolite, and said propane adsorbent.

5. (Currently amended) An adsorbent that is used in a pre-purification unit of a cryogenic air separation unit, wherein

said adsorbent is a hydrocarbon adsorbent comprising a zeolite that has at least one straight channel; a H-FER structure, a Na-MOR structure, or K-MOR structure; and a Si/Al ratio of no more than 20.

6.-7. (Cancelled).

8. (Currently amended) An adsorbent that is used in a pre-purification unit of a cryogenic air separation unit, wherein

said adsorbent is a propane adsorbent comprising a zeolite ~~with a MFI structure~~ that has H-MFI structure, Na-MFI structure, Ca-MFI structure, Zn-MFI structure, or Cu-MFI structure, and a Si/Al ratio of no more than 20.

9.-11. (Cancelled).

12. (Original) A method of pre-treating raw air, comprising using a pre-purification unit according to claim 1 to reduce a hydrocarbon concentration within liquid oxygen inside said cryogenic air separation unit.

13. (Original) A method of pre-treating raw air, comprising using a pre-purification unit according to claim 3 to reduce propane concentration within liquid oxygen inside said cryogenic air separation unit.